

Remarks

Claims 1-57 remain pending in the application and stand rejected. No claims are amended in this Response. The Assignee respectfully traverses the rejection and requests allowance of claims 1-57.

Claim Rejection Under 35 U.S.C. § 103(a)

Claims 1-57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,751,707 to Voit et al. (hereinafter "Voit") in view of U.S. Patent No. 5,924,039 to Hugenberg et al. (hereinafter "Hugenberg"). The Assignee respectfully traverses the rejection in light of the following discussion.

Independent claim 1 provides the following:

1. *A method of designing a first antenna system in a communication system, the method comprising:*
retrieving demographic information of customers from a first database system;
determining communication traffic based on the demographic information;
retrieving parameters of a second antenna system from a second database system;
determining an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system; and
determining a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system.

The Office action indicates that Voit discloses all elements of claim 1, save "the designing of antennas based on the demographic information and the configuration of the first antenna system is based on the communication traffic and the parameters of the second antenna system..." which are supposedly taught by Hugenberg. Pages 2 and 3 of the Office action. However, the passages of Voit and Hugenberg cited in the Office action do not teach or suggest any of the provisions of claim 1, as neither Voit nor Hugenberg teach or suggest "a method of designing a first antenna system in a communication system." Further, some provisions of claim 1 are not referenced in the Office action, and thus have not been shown to be disclosed in either Voit or Hugenberg. In addition, no motivation exists to combine Voit and Hugenberg to produce the method, design system, or software product claimed in the present application regarding the design of antenna systems.

Voit:

Generally, Voit discloses a communication system that employs “the use of an integrated services control point (ISCP) to coordinate processing of at least certain narrowband calls via interactions through a wireless broadband network.” Column 1, lines 20-23. Essentially, a customer’s broadband terminal, such as a set-top terminal for a television set, can be used to alert a customer to information, such as caller ID information, concerning a call being received by the customer’s phone. Column 4, lines 10-19, and column 6, lines 14-28. In addition, the user may be able to input information into the set-top terminal to control further processing of the call. Column 4, lines 20-32, and column 6, lines 29-35. Accordingly, nowhere does Voit discuss “a method for *designing* a first *antenna system* for a communication system,” as Voit does not address antenna system design in any fashion.

More specifically, the Office action states that “Voit discloses a MMDS communication system of more than two antenna systems (Fig. 4, and col. 23/lines 5-21) that based on the demographic information or customer profile information collected from each antenna system (col. 10/line 62 to col. 11/line 24), the headend or control database system can configure the antenna configuration for the receiving stations or subscribers (Fig. 7) based on the traffic communication or population/density of the users/viewers/subscribers within the service areas (as shown in Figs. 5A & 5B, and col. 23/lines 5-67; and col. 11/line 15 to col. 12/line 60 as the headend system serves its normal network broadband functions and the wireless broadband network and it can determine the traffic flows based on the customer’s need and services).” Pages 2-3 of the Office action. However, these cited passages do not relate in any way to the subject matter of claim 1.

For example, the “subscriber profile information” referred to in Voit apparently describes information relating to *a particular customer* regarding various call processing conditions, such as “triggers” (column 10, lines 62-66, for example), and thus does not suggest or teach the “demographic information” of claim 1, much less “retrieving demographic information of customers from a first database system.”

Furthermore, Voit does not teach or suggest “determining communication traffic based on the demographic information,” as recited in claim 1. For example, the passage in column 23 of Voit noted in the Office action discusses simulcast of overlapping antenna service areas, as shown in Figs. 5A and 5B. However, Voit does not discuss determining communication traffic

based on demographics.

Hugenberg:

Generally, Hugenberg discloses “a two-way digital [cellular] network using a polarization orthogonal to the polarization of a larger digital broadcast video cell system.” Column 3, lines 29-31. Therefore, the digital cellular network may be overlaid onto a digital broadcast video network, allowing the cellular network to be completely autonomous from the broadcast video network. Column 3, line 32-36. As a result, both services may employ the same frequency spectrum by way of reducing interference between the networks via signal polarization. Column 3, lines 36-39. Thus, like Voit, Hugenberg does not disclose or make obvious a method, system or software product for *designing* a first *antenna system* for a communication system, as Hugenberg does not address antenna system design in any way.

Regarding Hugenberg, the Office action further indicates that “Hugenberg teaches ... the designing of the antennas is corresponding to the population and the demographic information of the customers (col. 4/lines 42-64), and clearly, as shown in Fig. 5, for instance, the configuration of the first antenna system (network cell site) would be depended on the communication traffic and parameters of the second antenna system (users/clients) due to the demographic information of less or more subscribed users and other factors as communication traffic, multiple access techniques and speeds etc (refer to col. 7/lines 10-16).” Page 3 of the Office action. While Hugenberg acknowledges in a general way that a selection between two specific methods of combining a two-way digital cellular network and a digital broadcast network may “depend on various factors such as demographics, licenses, the topography, the selected RF hardware, and the link budgets,” (column 4, lines 42-44), the Assignee respectfully contends that Hugenberg neither teaches nor suggests “determining an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system,” as set forth in claim 1. Hugenberg does not mention communication traffic, much less that such traffic could be combined with antenna parameters to determine an antenna system configuration.

Independent Claim Provisions Not Addressed:

In addition, other provisions of claim 1, such as, for example, “retrieving parameters of a

second antenna system from a second database system,” and “determining a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system” are not addressed in the Office action, and are not discussed in Voit or Hugenberg.

Motivation to Combine Voit and Hugenberg:

Further, as neither Voit nor Hugenberg discuss a method, system, or software product for *designing* an antenna system in a communication system, no motivation exists to combine Voit and Hugenberg to produce such a method, system, or software product as provided by the claims of the present application.

As independent claims 20 and 39 provide similar limitations to independent claim 1, which has been shown in the foregoing discussion to be allowable, the Assignee asserts that claims 20 and 39 are allowable for at least the reasons provided above in support of claim 1, and such indication is respectfully requested.

Further, claim 2-19 depend from independent claim 1, claims 21-38 depend from independent claim 20, and claims 40-57 depend from independent claim 39. Since each of independent claims 1, 20 and 39 have been shown allowable in the foregoing discussion, the Assignee contends that claims 2-19, 21-38 and 40-57 are allowable for at least the same reasons as those provided above for their respective independent claims, and such indication is respectfully requested.

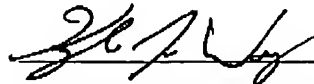
Conclusion

Based on the above remarks, the Assignee submits that claims 1-57 are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee respectfully requests allowance of claims 1-57.

The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

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